

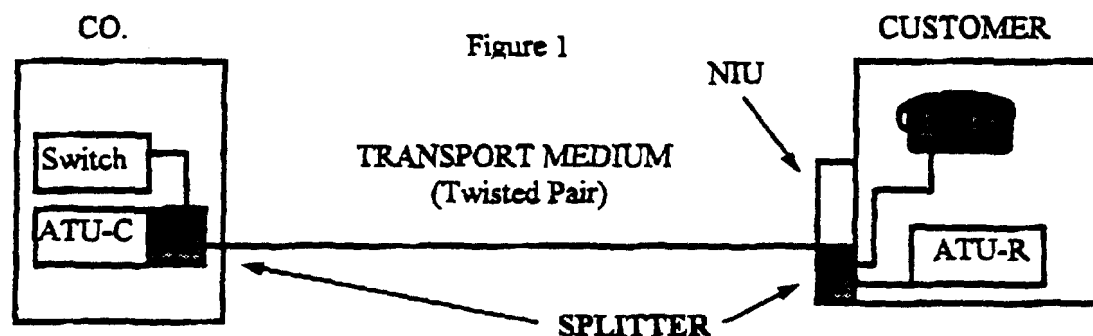
TP76730

Southwestern Bell / Pacific Bell / Nevada Bell

ISSUE 2 February, 1998

1. GENERAL DESCRIPTION

Southwestern Bell's ADSL based services are designed to provide our customers access to the SWBT ATM network at bit rates as high as 10Mbps. Transported asymmetrically through the use of ADSL equipment over traditional POTS facilities (twisted pair), the asymmetrical transport of data will not affect the normal delivery of POTS telephony. These services are designed to be transported simultaneously with traditional POTS telephony via the use of POTS splitters and ATU units placed at the customer and serving wire centers locations. (Refer to figure 1)



This service will utilize ATM protocol end-to-end and DMT line coding from the ATU-C to the ATU-R. An OAM channel is continuously on line between the ATU-C and the ATU-R to provide inband monitoring. Available bit rate is contingent upon, but not limited to the physical condition of the transport medium, distance of the customer location to its serving wire center, and existence and proximity of other high speed broadband services in the same transport medium.

Available Bit Rate is defined as follows:

Service Offering
Downstream Transmission
 Central Office to the NIU
 Up to 10Mbps

Upstream Transmission
 NIU to the Central Office
 Up to 900Kbps

TP76730

Southwestern Bell / Pacific Bell / Nevada Bell

ISSUE 2 February, 1998

2 REISSUE

This document is being reissued to include ADSL compliance information for CLECs desiring to use the SBC Network to transport ADSL signals.

3. NETWORK INTERFACE

ADSL based services are compliant with the following technical publications.

ANSI T1.413 - 1995

ALCATEL TELCOM ATM Subscriber Access Multiplexer
Alcatel Part Number 3EC 15129 AAAA TCZZA 01
December 1996

4. SERVICE AVAILABILITY

Initial deployment of ADSL based services is planned for the third quarter of 1997. This initial offering will be deployed, over a (24) twenty-four month period, at the following locations.

Dallas, TX.
Austin, TX
Fort Worth, TX.
San. Antonio, TX.
Kansas City, MO.
St. Louis, MO.

Oklahoma City, OK.
Tulsa, OK.
Topeka, KS.
Wichita, KS.
Little Rock, AK.

5. SPECTRUM MANAGEMENT

Southwestern Bell reserves the right to administer all types of loop facilities for the purpose of spectrum management. Spectrum management is necessary in order to prevent analog and/or digital signals and services from interfering with each other in exchange facilities, and thereby, causing harm to the network and to existing customers and services.

Signal interference can occur in exchange facilities composed of copper cable or other types of facilities such as electronic transport systems. Administratively controlling the assignment location and/or type of transmission equipment used to transport the wide variety of analog and digital signals is especially important as different transport technologies, many with overlapping frequency spectrums, are introduced into the exchange facility environment.

Without spectrum management, signal interference between different transport technologies can occur, causing harm to the network and disruption to existing customers and their services.

- 5.1 Section 5.2 is an analysis of spectral requirements for ADSL signals. Any CLEC desiring to provide ADSL based services utilizing the SBC network must be in compliance with the following attachment. There will be no exceptions. Please note that sections 7.14, 7.14.1, 7.14.2, 6.14, 6.14.3 mentioned in section 5.2 of this document are references from the T1.413 ballot T1 LB 652

5.2

Spectral Requirements for ADSL in SBC's Unbundled Loops

Twisted pairs used for digital subscriber loop services typically are housed within binder groups with other pairs for at least part of their run length. Within a binder group, electromagnetic coupling, termed crosstalk, will result in the signal from one pair generating noise onto other pairs. This crosstalk interference can often be a limiting factor in service performance. In order to ensure proper service performance, the spectral usage of services must be carefully managed.

In this context, SBC has chosen an ADSL solution that adheres to the American National Standards Institute (ANSI) T1.413 standard using the frequency division multiplexed (FDM) option. In particular, the letter ballot for Issue 2 of T1.413 (T1 LB 652) will be referenced. Selection of a T1.413-based solution leverages the significant body of work that had been performed on spectral compatibility during the evolution of this standard. The FDM option was selected in order to minimize the effect of near-end crosstalk (NEXT). When various transceivers are located very close to each other and share the same binder, the crosstalk generated by a transceiver will see very little attenuation before being applied to other transceivers. This can occur at either the network or subscriber end, and is quite likely at the network end. Thus it is preferable to minimize the spectral overlap of signals for various services. By using the FDM option, NEXT from the ADSL downstream will have little overlap with the ADSL upstream and ISDN, and have only partial overlap with HDSL.

For ADSL deployed in unbundled loops, the same issues relative to crosstalk apply. Therefore it is crucial that ADSL systems deployed in unbundled loops have spectral characteristics similar to a T1.413-compliant system using the FDM option. The spectral characteristics of an ADSL system are shown in Figures 1 and 2. In each, the spectrum is broken into three sections: the out-of-band response below the pass band (A, D), the pass band response (B, E), and the out-of-band response above the pass band (C, F). The T1.413 standard gives the spectral requirements for a system using the echo-cancelled option. This information can be used to define the characteristics of sections A, B, E, and F of figures 1 and 2. Additional requirements must be given for sections C and D.

Consider the upstream response in Figure 1. Sections A and B are defined in Figure 29 of T1 LB 652, along with sections 7.14.1 and 7.14.2. These parts of the letter ballot are repeated in Appendix A for reference. For the case of section C, however, SBC does not feel that the response in Figure 29 of appendix A is restrictive enough, and the resulting NEXT could unnecessarily degrade downstream performance. For the case of 10 interferers, the NEXT generated by HDSL and ISDN will reach the noise floor of -140 dBm/Hz at about 400 kHz (crosstalk models taken from appendix B of T1 LB 652). For

TP76730

Southwestern Bell / Pacific Bell / Nevada Bell

ISSUE 2 February, 1998

the response of Figure 29, this value would not be reached until about 650 kHz. SBC requires that the band from 138 kHz to 416 kHz roll off at 32 dB/octave such that the NEXT due to the upstream ADSL signal shall reach the noise floor at 416 kHz. The requirements above 416 kHz follow a similar pattern to Figure 29, but with 915 kHz changed to 620 kHz. The overall requirements are given in Figure 3.

Next consider the downstream response of Figure 2. Sections E and F are defined in Figure 25 of T1 LB 652, along with sections 6.14.1 and 6.14.3. These parts of the standard are repeated in Appendix B for reference. Since Figure 25 of T1.413 assumes the echo-cancelled option, it cannot be used to define section D of Figure 2. Echo cancelled systems can severely disrupt the service of customers on non-echo cancelled systems. SBC has determined that the degradation due to NEXT from the downstream ADSL signal is acceptable if it follows a 36 dB/octave roll off from 160 kHz down to 80 kHz. Below 80 kHz, a roll off of approximately 4.6 dB/octave is used to ensure that the level is 92.5 dBm at 4 kHz (a straight line fit in dB). The overall requirements are given in Figure 4.

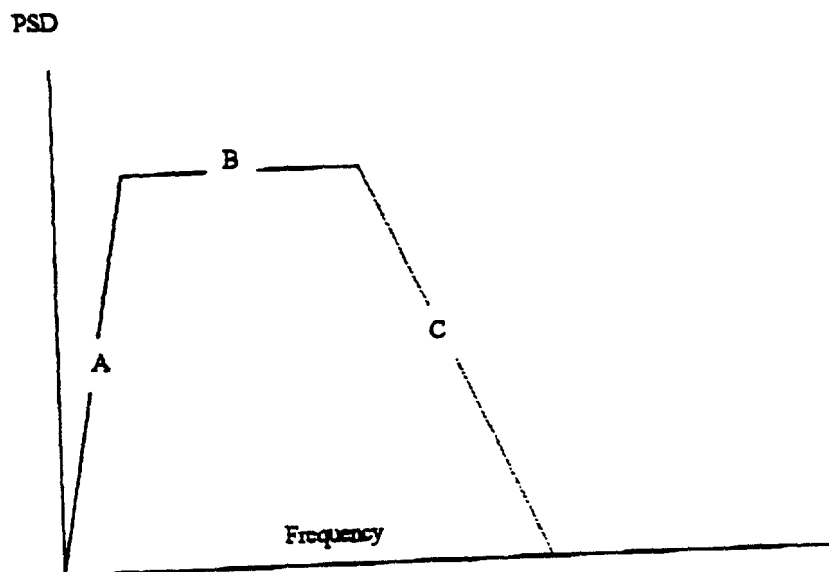


Figure 1: Upstream spectrum

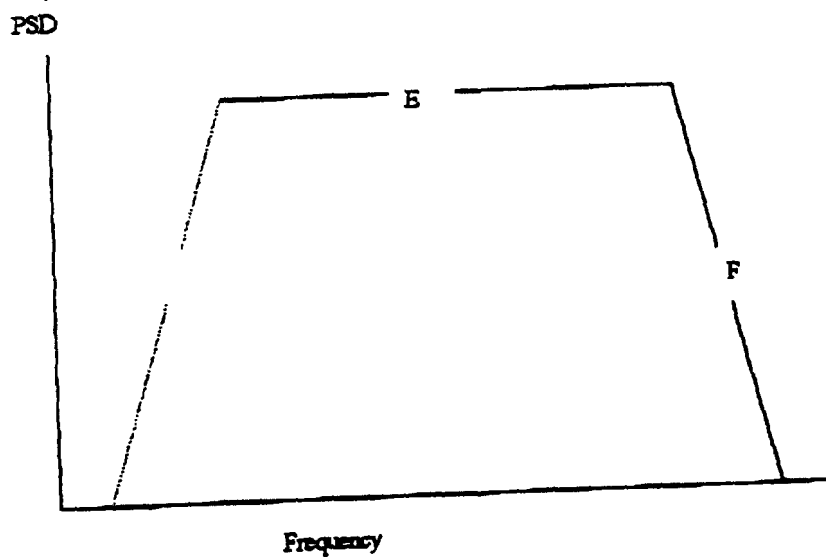


Figure 2: Downstream spectrum

Southwestern Bell / Pacific Bell / Nevada Bell

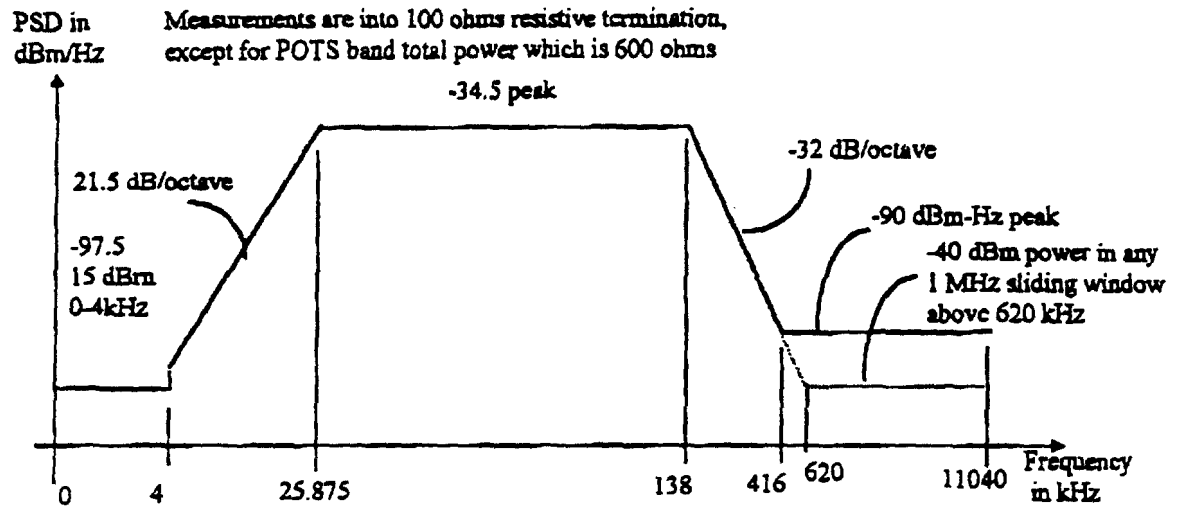
TP76730
ISSUE 2 February, 1998

Figure 3: Upstream requirements

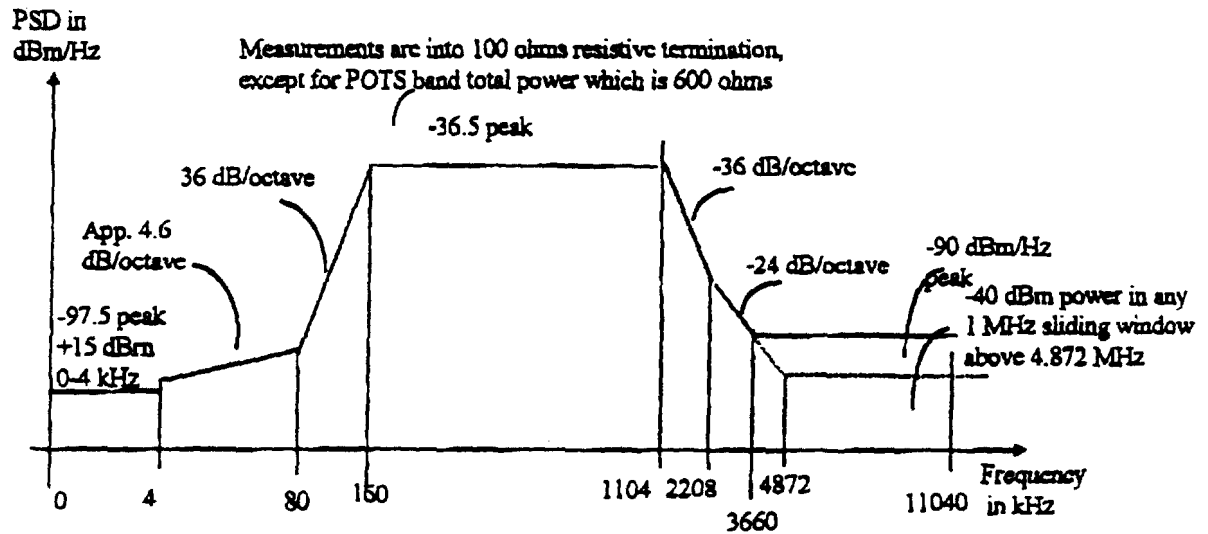
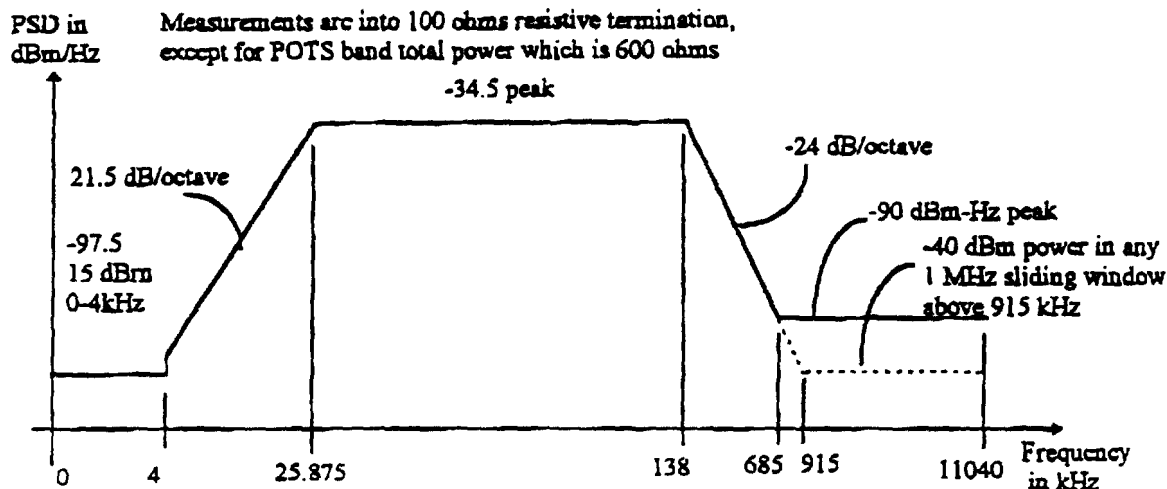


Figure 4: Downstream requirements

Appendix A: Upstream Spectral Response from T1 LB 652

7.14 Transmitter spectral response



FREQUENCY BAND, kHz	EQUATION FOR LINE, dBm/Hertz
0 - 4	-97.5, +15 dBm 0-4 kHz
>4 - 25.875	$-92.5 + 21.5 \cdot \log(f/4)/\log(2)$
25.875 - 138	-34.5
138 - 685	$-34.5 - 24 \cdot \log(f/138)/\log(2)$
685 - 11040	-90, , with -40 dBm power in any 1 MHz sliding window above 915 kHz

Figure 29 – ATU-R transmitter PSD mask

Figure 29 shows a PSD mask for the transmitted signal. For purposes of this specification, the pass band is defined as the frequency range over which the modem transmits. The low frequency stop band is defined as the voice band.

7.14.1 Pass band PSD and response

The average PSD within the used passband shall be no greater than -38 dBm/Hz; the upper end of this passband depends on whether the signal is for initialization (see 7.15.1) or steady state (see 7.15.3).

The pass band ripple shall be no greater than +3.5 dB; the maximum PSD of -34.5 dBm/Hz applies across the whole band from 25 kHz to 138 kHz; the minimum applies only over the used passband.

The group delay variation over the pass band shall not exceed 50μs.

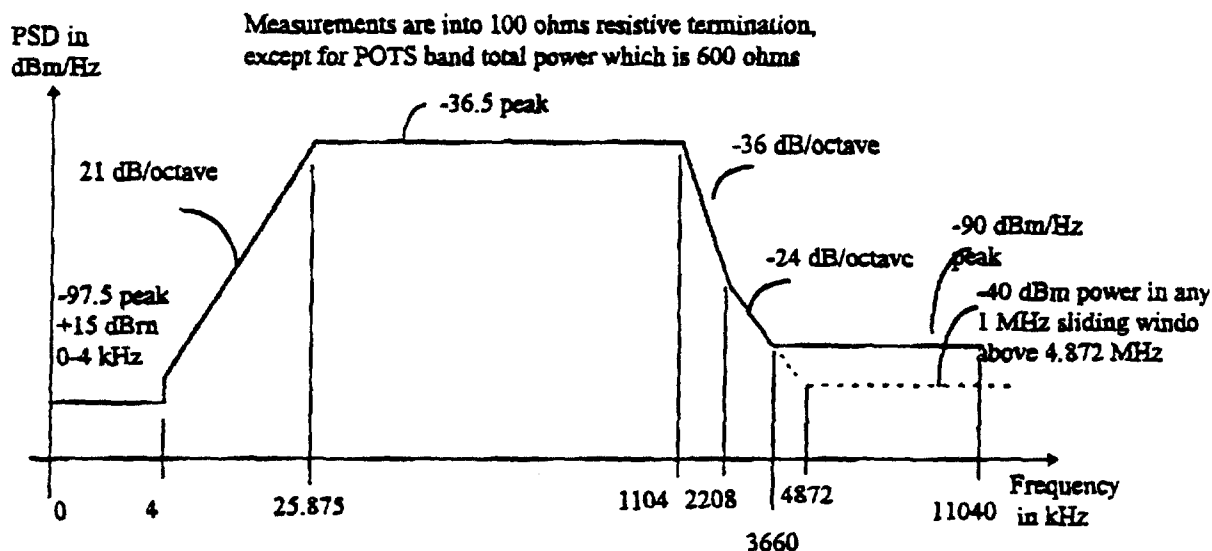
7.14.2 Low frequency stop band rejection

The total power in the voice band (0 Hz to 4 kHz) shall not exceed +15 dBm (see 12.4 for the method of measurement).

In the transition band from 4 kHz to 25.875 kHz, the maximum PSD is given by a straight line on a log scale from -92.5 dBm/Hz, at just above 4 kHz, to -34.5 dBm/Hz at 25.875 kHz; that is $-92.5 + 21.5 \times \log(f/4)/\log(2)$ dBm/Hz.

Appendix B: Downstream Spectral Response from T1 LB 652**6.14 Transmitter spectral response**

Figure 25 shows a representative spectral response mask for the transmitted signal. The low frequency stop band is defined as the POTS band; the high frequency stop band is defined as frequencies greater than 1.104 MHz.



FREQUENCY BAND, kHz	EQUATION FOR LINE, dBm/Hz
0 - 4	-97.5, +15 dBm 0-4 kHz
>4 - 25.875	$-92.5 + 21 \times \log(f/4)/\log(2)$
25.875 - 1104	-36.5
1104 - 2208	$-36.5 - 36 \times \log(f/1104)/\log(2)$
2208 - 3660	$-72.5 - 24 \times \log(f/2208)/\log(2)$
3660 - 11040	< -90 peak, ith < -40 dBm power in any 1 MHz sliding window above 4.872 MHz

Figure 25 – ATU-C transmitter PSD mask

TP76730

Southwestern Bell / Pacific Bell / Nevada Bell

ISSUE 2 February, 1998

6.14.1 Passband PSD and response

The average PSD within the used passband shall be no greater than -40 dBm/Hz reduced by power cut-back in multiples of 2 dB; the lower end of this passband depends on whether echo cancelling or FDD is used, and is manufacturer discretionary; the upper end depends on whether the signal is for initialization (see 6.15.1) or steady state (see 6.15.3);.

The pass band ripple shall be no greater than +3.5 dB; the maximum PSD of $(-40 - 2n + 3.5)$ dBm/Hz applies across the whole band from 25 kHz to 1104 kHz; the minimum applies only over the used passband.

The group delay variation over the pass band shall not exceed 50 μ s.

6.14.3 High frequency stop band rejection

The PSD shall decrease at 36 dB/octave from $(-40$ dBm/Hz + 3.5 dB) at the band-edge (1.104 MHz) to $(-76$ dBm/Hz + 3.5 dB) at 2.208 MHz, and at 24 dB/octave from 2.208 MHz until reaching a floor of -90 dBm/Hz at 3.660 MHz. In addition, the power in any 1 MHz sliding window from 4.872 MHz to 11.04 MHz shall not exceed -40 dBm.

6. DOCUMENTATION AND REFERENCES

ALCATEL TELCOM ATM Subscriber Access Multiplexer
Alcatel Part Number 3EC 15129 AAAA TCZZA 01
December 1996

Alcatel Contract Department
1225 North Alma Road
Richardson, Texas 75081-2206
(800) 252-2835

ANSI T1.413 - 1995

The American National Standards Institute
11 West 42nd Street, New York, New York 10036
(212) 642-4900
Telex (212) 398 0023

7. ACRONYMS

Mbps	Megabits per second
Kbps	Kilobits per second
ATU-C	ADSL Transceiver Unit, Central Office End
ATU-R	ADSL Transceiver Unit, Remote Terminal End
NIU	Network Interface Unit
DMT	Discrete Multitone
ATM	Asynchronous Transfer Mode
ANSI	American National Standards Institute
OAM	Operation and Maintenance
POTS	Plain Old Telephone Service
ADSL	Asymmetrical Digital Subscriber Line

1 McCUTCHEN, DOYLE, BROWN & ENERSEN, LLP
ALFRED C. PFEIFFER, JR. (SBN 120965)
2 NORA CREGAN (SBN 157263)
LAURA MAZZARELLA (SBN 178738)
3 Three Embarcadero Center
San Francisco, California 94111-4067
4 Telephone: (415) 393-2000

5 COVAD COMMUNICATIONS COMPANY
BERNARD CHAO (SBN 148352)
6 3560 Bassett Street
Santa Clara, California 95054
7 Telephone: (408) 490-4500

8 Attorneys for Plaintiff
Covad Communications Company
9

10 UNITED STATES DISTRICT COURT
11 NORTHERN DISTRICT OF CALIFORNIA
12 SAN FRANCISCO DIVISION

13
14 COVAD COMMUNICATIONS
COMPANY, a California corporation,
15
16 Plaintiff,

17 v.

18 PACIFIC BELL, a California corporation,
19
20 Defendant.

No. C 98-1887 SI

**DECLARATION OF NORA CREGAN
IN SUPPORT OF COVAD
COMMUNICATIONS COMPANY'S
APPLICATION FOR PRELIMINARY
INJUNCTION**

Date: August 14, 1998

Time: 9:00 a.m.

Place: Courtroom 4

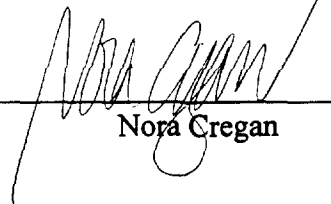
Honorable Susan Illston

21
22 I, Nora Cregan, declare as follows:

23 1. I am an attorney associated with the law firm of McCutchen, Doyle,
24 Brown & Enersen, attorneys for plaintiff Covad Communications Company in this matter. I am
25 licensed to practice in the State of California and before the United States District Court for the
26 Northern District of California. I have personal knowledge of the facts contained in this
27 declaration, and, if called upon, could and would testify competently to them.
28

- 1 2. Attached as Exhibit A is a true and correct copy of a press release, dated
2 May 27, 1998, issued by SBC Communications, which was downloaded from SBC's Internet
3 website.
- 4 3. Attached as Exhibit B is a true and correct copy of a press release, dated
5 November 14, 1997, issued by SBC Communications, which was downloaded from SBC's
6 Internet website.
- 7 4. Attached as Exhibit C is a true and correct copy of excerpts of *In the*
8 *Matter of Local Exchange Carriers' Rates, Terms, and Conditions for Expanded*
9 *Interconnection*, FCC 97-208, CC Docket No. 93-162 (June 13, 1997).
- 10 5. Attached as Exhibit D is a true and correct copy of excerpts of the Opinion
11 of the Attorney General, *In the Matter of the Joint Application of Pacific Telesis Group and SBC*
12 *Communications for SBC to Control Pacific Bell*, A.96-04-038 (filed April 26, 1996).
- 13 6. Attached as Exhibit E is a true and correct copy of excerpts of *In the*
14 *Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of*
15 *1996*, 11 F.C.C.R. 15499, CC Docket No. 96-98, FCC 96-325 (Aug. 8, 1996).
- 16 7. Attached as Exhibit F is a true and correct copy of excerpts of Pacific
17 Bell's Telecommuting Guide, which was downloaded from Pacific Bell's Internet website.
- 18 8. Attached as Exhibit G is a true and correct copy of Pacific Bell's FasTrak
19 DSL, Frequently Asked Questions, which was downloaded from Pacific Bell's Internet website.
- 20 9. Attached as Exhibit H is a true and correct copy of excerpts of *In the*
21 *Matter of the Public Utility Commission of Texas*, FCC 97-346, CCBPol 96-13 (Oct. 1, 1997).
- 22 10. Attached as Exhibit I is a true and correct copy of excerpts from the
23 testimony of Don Roe, in *In the Matter of the Application of Pacific Bell for Authority to*
24 *Increase and Restructure Certain Rates of Its Integrated Services Digital Network Services*,
25 Application 95-12-043.
- 26 11. Attached as Exhibit J is a true and correct copy of excerpts of Pacific
27 Telesis' Annual Report for 1995.
- 28

1 I declare under penalty of perjury under the laws of the United States of America
2 and the State of California that the foregoing is true and correct. Executed this 14 day of June,
3 1998 at San Francisco, California.

4 
5 _____
6 Nora Cregan
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

SBC Communications Inc.**Center****About
SBC****In Your
Area****Products &
Services****Careers
at SBC****Investor
Information**[News Center](#)[News Releases](#)[Current](#)[Financial](#)[Archives](#)[Links to:](#)[Southwestern Bell](#)[Pacific Bell](#)[Network
Disclosures](#)[Public Policy Issues](#)[News Center
Home Page](#)**SBC Communications Announces Broad ADSL
Deployment Across California***Pacific Bell Plans To Have Service Available To More Than 5
Million California Business And Residential Customers By End Of
Summer***San Francisco, California, May 27, 1998**

SBC Communications, Inc. announced today that Pacific Bell will begin broadly deploying high-speed Asymmetrical Digital Subscriber Line (ADSL) service in more than 200 communities across California to satisfy customers' increased demands for bandwidth and faster Internet access.

Designed primarily for Internet and telecommuting applications, ADSL enables businesses of all sizes to work smarter and home Internet enthusiasts to surf faster. Packaged with Internet service, ADSL provides online consumers and small businesses with accelerated access to the World Wide Web. As a stand-alone connection, ADSL also allows telecommuting employees and after-hours home workers to connect to their employers' corporate networks via dedicated, secure links.

Following a successful market trial of ADSL initiated last fall, Pacific Bell plans to initially deploy ADSL in **87 central offices** serving all or part of more than 200 communities throughout the state. Within the next few months, cities such as San Jose, San Francisco, Oakland, Anaheim, Los Angeles, San Diego and Sacramento will have Pacific Bell ADSL service. The ADSL-equipped central offices currently serve approximately 4.4 million households and 650,000 business customers.

"SBC recognizes the value of the data communications market for our customers and our business. Pacific Bell's broad-based rollout of ADSL in California is one example of the commitment we are making to support our customers' data needs," said Royce Caldwell, President of SBC Operations.

"Pacific Bell is stepping up to the plate to deliver lightning fast Internet access to millions of our customers in California, home of the world's most demanding and intensive Internet users," said Jim Callaway, Pacific Bell president of public affairs. "This broad geographic rollout delivers on our commitment to provide Californians with the speed they need at a competitive price so that they can take greater advantage of the power of the Internet. It gives them the ability to receive and send data to anyone, anywhere, anytime. The California marketplace already has the highest percentage of "wired" households and the greatest number of second

phone lines of any state in the country. The introduction of ADSL technology will solidify the Golden State's position as the center of the Internet world," he added.

The much-anticipated offering is expected to bolster California's economic, environmental and social development, according to state Senator Steve Peace (D-La Mesa). "I applaud Pacific Bell's commitment to accelerate deployment of this advanced telecommunications infrastructure on behalf of California businesses and consumers," said Senator Peace. "This is truly the technology that California needs to remain competitive in the 21st century, for it has social, educational and business applications that benefit each and every one of us."

Pacific Bell plans to begin commercial deployment in July. Pacific Bell is making filings with regulatory authorities to provide this service.

ADSL provides telecommuters and branch offices with secure, dedicated links to corporate networks at transmission speeds of up to 1.5 megabits per second (Mbps) - 50 times faster than 28.8 kilobits per second (Kbps) modem speeds. By comparison, it would take a 28.8 Kbps modem 41 minutes to download a short video clip (72 Mbps) that could be downloaded in 48 seconds using ADSL technology. It is also a high-speed, always-on, direct Internet access solution that enables users to download data, graphics, audio and video files over existing telephone lines while simultaneously using a phone or fax machine.

Three ADSL offerings will be available from the company and priced as follows pending regulatory approval and processes:

- **"Home Pack DSL"** includes the ADSL connection and Internet service, and is designed for high-volume home Internet users. "Home Pack" provides transport speeds starting at 384 kilobits per second (Kbps) downstream and 128 Kbps upstream. Total monthly price for home Internet access package starts at \$89 including \$59 ADSL connection and \$30 dedicated Internet service from Pacific Bell Internet Services.
- **"Internet Access Pack DSL"** also includes the ADSL connection and Internet service, and is designed to meet the higher-speed Internet access needs of all businesses. "Internet Access Pack" includes two speed options:
 - up to 384 Kbps downstream and 384 Kbps upstream to meet the needs of small office/home office (SOHO) and small businesses requiring internet access. Total monthly price for business Internet package starts at \$199, including \$99 ADSL connection and \$100 dedicated Internet service from Pacific Bell Internet Services.
 - up to 1.5 megabits per second (Mbps) downstream and 384 Kbps upstream for small businesses needing more bandwidth and for medium and large businesses where many employees share a single internet connection. Total monthly price for the business Internet package for

small offices starts at \$339, including \$189 ADSL connection and \$150 dedicated Internet service from Pacific Bell Internet Services.

- **"Office Pack DSL"** includes the ADSL service and is designed to meet the dedicated and secure remote access needs of large business customers. "Office Pack" includes two speed options:
 - up to 1.5 Mbps downstream and 384 Kbps upstream. Total monthly price for high-speed corporate network connection is \$189.
 - up to 384 Kbps downstream and 384 Kbps upstream. Total monthly price for high-speed corporate network connection is \$99.

Additional charges may apply for purchases of customer premise equipment and network integration services.

A one-time installation charge of \$125 applies for each ADSL package. Pacific Bell will make ADSL equipment available to its residential and business customers; pricing for ADSL equipment will vary by ADSL package.

"Pacific Bell's plans to broadly deploy high-speed connectivity is a major win for California's personal computer users," said Robert T. Jenkins, Intel vice president and director of corporate licensing. "We congratulate Pacific Bell's commitment to major statewide deployment of ADSL access." Jenkins, who chairs the executive committee of the California Manufacturers' Association (CMA), said that a recently issued CMA study predicted that "640,000 new jobs and an increase of more than \$200 billion in gross state output by 2001" will result from broadly deployed services such as Pacific Bell's ADSL.

"Commercial deployment of ADSL is but one component of our unfolding data strategy. Over the next few months, we intend to introduce a full range of data transport and networking services that meet the complex demands of businesses and consumers," said Ed Mueller, president and CEO of Pacific Bell.

According to Beth Gage, a broadband consultant at TeleChoice, the North American DSL market is expected to reach an installed base of 110,000 lines this year, 355,000 in 1999 and more than one million in 2001. "California's high tech industries and other factors contribute to its position as the most wired region in the US," Gage said. "As mass market DSL services become available consumers and businesses will benefit from vastly improved Internet response times for retrieving and transmitting data. Eliminating the local access bandwidth bottleneck for consumers and small businesses will have definite side effects - increased use of the Internet for business applications and consumer entertainment, and continued growth of new applications and services that will take advantage of new access capabilities."

Due to existing technology and distance limitations, ADSL will not be available to all customers served by the ADSL-equipped central

offices. Initially, the service will be available to approximately 60 percent of the households and businesses in each service area. To receive the service, customers must be located within 16,000 feet of a ADSL-equipped central office and their lines must meet certain transmission criteria.

While existing phone lines can be adapted for ADSL, the following hardware and software is required: an ADSL modem; a "splitter" that divides voice and data line traffic; and a Network Interface Card that connects the modem to a personal computer.

As a member of the Universal ADSL Working Group (UAWG) comprised of leading telecommunications, hardware and software companies, Pacific Bell's parent company, SBC Communications, Inc., believes its ADSL offering helps satisfy the UAWG's goal of bringing high-speed access to the mass market.

Pacific Bell will provide one-stop shopping for hardware, service and support and can assist customers in obtaining and installing these devices. California residents can call 1-888-884-2DSL or visit the Pacific Bell Web site at www.pacbell.com/products/business/fastrak/adsl/ for additional information.

Pacific Bell provides basic and leading-edge telephone services and products to over 13.8 million business and residential customers -- a total of more than 17.6 million access lines -- throughout California. It is a company of SBC Communications Inc., a global leader in the telecommunications industry with nearly 34 million access lines and 5.6 million wireless customers across the United States, as well as investments in telecommunications businesses in 10 countries. Under the Southwestern Bell, Pacific Bell, Nevada Bell and Cellular One brands, SBC, through its subsidiaries, offers a wide range of innovative services, including local and long-distance telephone service, wireless communications, paging, Internet access, and messaging, as well as telecommunications equipment, and directory advertising and publishing. SBC (www.sbc.com) has more than 118,000 employees and reported 1997 revenues of \$25 billion. SBC's equity market value of \$80 billion (as of March 31, 1998) ranks it as one of the largest telecommunications companies in the world.

Pacific Bell *ADSL Central Offices* 1998 Summer Deployment

The following central offices cover all or part of more than 200 communities in California.

Alameda	Los Angeles (5)
Albany	Milpitas
Alhambra	Mountain View
Anaheim (2)	National City
Arcadia	Newport Beach
Berkeley	Northridge
Beverly Hills	North Hollywood
Burbank	Oakland (3)
Burlingame	Palo Alto (2)
Canoga Park	Pasadena

Colma	Pleasanton
Compton	Redwood City
Concord	Reseda
Costa Mesa	Sacramento (4)
Culver City	San Bruno
Danville (2)	San Carlos
El Toro	San Diego
Escondido	San Francisco (5)
Fair Oaks	San Gabriel
Fremont (2)	San Jose (5)
Fullerton	San Mateo
Garden Grove	San Ramon
Glendale	Santa Ana (2)
Hayward	Santa Clara (2)
Hollywood	Sherman Oaks
Irvine	Simi
La Crescenta	Sunnyvale
La Jolla	Tustin
La Mesa	Van Nuys
Laguna Nigel	Ventura (2)
Livermore	Walnut Creek
Los Altos	



[About SBC Communications Inc.](#) | [In Your Area](#) | [Products & Services](#) |
[News Center](#) | [Careers at SBC](#) | [Investor Information](#) |
[Search](#) | [Feedback](#) | [Home](#)



Copyright © 1998 SBC Communications Inc. All Rights Reserved.

SBC Communications Inc.

SBC
News
CenterAbout
SBCIn Your
AreaProducts &
ServicesCareers
at SBCInvestor
Information[News Center](#)[News Releases](#)[Current](#)[Financial](#)[Archives](#)[Links to:](#)[Southwestern Bell](#)[Pacific Bell](#)[Network
Disclosures](#)[Public Policy Issues](#)[News Center
Home Page](#)**SBC Companies Introduce High-Speed DSL Services***New FasTrak DSL Service Marks Next Step In High-Speed Data Communications In Southwestern Bell And Pacific Bell Territories***San Antonio, Texas, November 14, 1997**

To supplement its existing line of broadband services, SBC Communications Inc. today announced it is introducing high-speed Digital Subscriber Line (DSL) services through its Pacific Bell and Southwestern Bell telephone subsidiaries. The limited commercial offerings will be presented under the Pacific Bell brand in the San Francisco Bay Area and under the Southwestern Bell brand in Austin.

FasTrak DSL, a digital technology that transmits information over regular twisted copper phone wires, is a remote local area network (LAN) and high-speed Internet access solution that enables subscribers to download data at high speeds while talking on the phone over the same line. With *FasTrak* DSL service, telecommuters and branch offices have high-speed access to the Internet or a dedicated link to their corporate LAN at transmission speeds of up to 1.5 megabits per second (mbps) - or 50 times faster than a 28.8 analog modem.

FasTrak DSL presents work-at-home professionals consistently faster access to graphic, audio, video and data files. *FasTrak* DSL is always on with no setup time and no busy signals.

"DSL technology complements our already robust line of broadband services in the Southwestern Bell and Pacific Bell regions," said Paula Reinman, marketing director for Pacific Bell's DSL Services. "Our data strategy is to continue to develop a host of transport and access services that give customers a range of choices that best suit their application needs."

Southwestern Bell and Pacific Bell will include different service options in the first phase of the limited commercial offering of *FasTrak* DSL. The first option will feature a downstream speed - from the host site to the user - of up to 384 Kilobits-per-second (Kbps), and the same speed upstream from the user to the host site. The second will feature a downstream speed of up to 1.5 Megabits-per-second and an upstream speed of up to 384 Kbps.

During the trial, Southwestern Bell will initially install DSL switches in four central offices in Austin, and Pacific Bell will make DSL service available in select locations in the San Francisco Bay Area. Prices for *FasTrak* DSL includes a \$125 installation fee and will range from \$80 per month to \$250 per month for unlimited usage.

To order the *FasTrak* DSL service, customers will have to meet certain criteria. For instance, users must be located within a three-mile radius from a DSL-equipped central office. In addition, host networks must be connected to Southwestern Bell's Cell Relay Network or Pacific Bell's FasTrak Network, ATM-based backbones that ensure the quality and throughput of *FasTrak* DSL connections.

Customer equipment for *FasTrak* DSL includes an Alcatel ADSL modem, a "splitter" that divides voice and data, and a Network Interface Card to connect the modem and PC. Southwestern Bell and Pacific Bell will provide one-stop shopping for hardware, service and support and can assist customers in obtaining and installing these devices.

FasTrak DSL is compatible with both Windows and Macintosh operating systems. In the Pacific Bell region, Internet connectivity will be provided initially by Concentric Network Corporation. Jump Point Communications will provide Internet access for the limited commercial offering in Austin. Pacific Bell and Southwestern Bell are also working with other ISPs to provide high-speed Internet connectivity via its DSL service in the future.

The limited commercial DSL offerings will be introduced this month in the San Francisco Bay Area pursuant to the trial authorized by Commission.

For more information, California residents can call 1-888-884-2DSL, or visit the Pacific Bell Web site at:

<http://www.pacbell.com/products/business/fastrak/adsl>.

Austin residents can call toll-free 1-888-SWB-DSL1.

Pacific Bell provides basic and leading-edge telephone services and products to over 9 million business and residential customers -- a total of more than 16 million access lines -- throughout California. Southwestern Bell Telephone Co. provides basic and leading-edge telephone services and products to more than 13.5 million business and residential customers -- a total of more than 15 million access lines -- in Texas, Missouri, Oklahoma, Arkansas and Kansas. Both are companies of SBC Communications Inc., a global leader in the telecommunications industry, with more than 32 million access lines and over 5 million wireless customers across the United States, as well as investments in telecommunications businesses in 10 countries. Under the Southwestern Bell, Pacific Bell, Nevada Bell and Cellular One brands, the company, through its subsidiaries, offers a wide range of innovative services, including local and long-distance telephone service, wireless communications, paging, Internet access, and messaging, as well as telecommunications equipment, and directory advertising and publishing. SBC (www.sbc.com) has more than 114,000 employees and reported 1996 revenues of \$23.5 billion. SBC's equity market value of \$56.5 billion (as of June 30, 1997) ranks it as one of the five largest telecommunications companies in the world.



[About SBC Communications Inc.](#) | [In Your Area](#) | [Products & Services](#) |
[News Center](#) | [Careers at SBC](#) | [Investor Information](#) |
[Search](#) | [Feedback](#) | [Home](#) |

Copyright © 1998 SBC Communications Inc. All Rights Reserved.



**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Local Exchange Carriers')	CC Docket No. 93-162
Rates, Terms, and Conditions)	
for Expanded Interconnection)	
Through Physical Collocation)	
for Special Access and Switched Transport)	

SECOND REPORT AND ORDER

Adopted: June 9, 1997

Released: June 13, 1997

By the Commission:

TABLE OF CONTENTS

	<u>Paragraph No.</u>
I. INTRODUCTION.....	1
II. BACKGROUND	
A. Expanded Interconnection Rulemaking Proceeding	6
B. Expanded Interconnection Tariff Investigation	10
III. PHYSICAL COLLOCATION TARIFF INVESTIGATION	
A. Legal Authority to Impose Refund Liability	13
B. Rate Structure.....	23
1. Nonrecurring Charges for Recurring Costs	26
2. Nonrecurring Charges for Equipment.....	31
3. Charges for Additional, Extraordinary, or Individually Determined Costs.....	34
4. Advance Payment of Central Office Construction Charges	39
5. Responsibility for Payment of Common Construction Costs.....	43
6. Payment of Interconnector-Specific Charges by Subsequent Interconnector	52
7. Electric Power	57